

DUNKARD CREEK-1DecY2K11

DOMINION POST Thursday 1 December 2011:

UPDATE

New drilling petition started

Author wants surface rights to be enforced

BY DAVID BEARD
The Dominion Post

CHESAPEAKE

settles gas drilling lawsuit.

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Marion County resident Rick Humphreys has started a petition urging the governor to call a special session on Marcellus regulation. He called on the Legislature to make surface-owner rights dominant over mineral rights, contrary to current West Virginia common law.

The Dominion Post reported Wednesday on a petition launched by Candace Jordan, a member of WV4MOM, a Morgantown anti-fracking group. Humphreys launched his petition Wednesday morning.

Like the other, it is addressed to Gov. Earl Ray Tomblin, Senate President Jeff Keller and House Speaker Rick Thompson, and is posted on change.org, a socialaction website run by a nonprofit group of the same name.

The petition reads: "Legislation already exists to regulate oil & gas drilling unfortunately, government does not enforce it. Both the U.S. and WV Constitutions guarantee property rights are never changing and need no further justification. We call for you to hold a Special Session to require enforcement of current regulations; strengthen regulations to reflect technological advancements; and, return Constitutional Property Rights to Land Owners. As a minimum, immediately proclaim Land Owners have Dom- inate estate. This will return some of the Constitutional Property Rights that will allow Land Owners authority to say who enters, and what can be disturbed on, their private property."

Every time someone signs a change.org petition, an email is automatically sent to all the addressees. As of late Wednesday afternoon, six people had signed the Humphreys petition. The Jordan petition was up to 282 signatures.

The Dominion Post previously reported that Humphreys, a Plum Run resident, has four conventional vertical wells on his property and successfully sued the operator for damages. He said he viewed mineral estate dominance as a twisted form of eminent domain and a violation of Constitutional property rights.

Stacie Griffith has a gas well only 225 feet from her home in Plum Run hollow, and is a friend and distant relative of Humphreys by marriage. Her family's ordeal has been chronicled in The Dominion Post. She signed his petition and explained why in an email.

"I spent my whole life hearing about the 'American Dream.' Does that mean you can spend your time, effort and money to build a home yourself and then someone can decide to put an oil and gas well right beside it.

"They can cut your water lines," she wrote, "contaminate your spring water, pollute your air, hit you with their vehicles, urinate in your yard, interrupt your sleep, drag mud on the roads, rip apart a community, block the road for hours at a time, inconvenience your entire life for an ongoing of 4 years now with no end in sight and no consequences? This is not the West Virginia I once knew. This is not what I want my 2-year-old daughter exposed to. This is not my America. It is a politician's gold mine."

Julie Archer, with the West Virginia Surface Owners Rights Organization (SORO), signed on her own behalf, but said the group plans to circulate the petition among its members, as it's consistent with their stance that surface owners' rights need to be recognized and respected, and that surface owners should have a say when natural gas development takes place on their land.

"And as the petition notes, lack of enforcement of existing laws is a serious problem and those laws have not kept up with technological advances. ... While we appreciate the work of the Select Committee, we do not feel the bill recommended by the committee adequately addresses surface owners concerns. We are disappointed that this was the best they felt they could do, and if there is a special session there are specific provisions we would like to see strengthened to provide better protection for citizens and the environment. We cannot and will not support a bill that is weaker than what was recommended by the committee."

Tomblin's office told The Dominion Post that they are hoping for a December session.

UPDATE

Chesapeake settles gas drilling lawsuit

*BY DAVID BEARD
The Dominion Post*

Chesapeake Appalachia has settled a federal civil suit with an Ohio County couple and will proceed with drilling on their land.

The Dominion Post previously reported that Melvin W. and Carol M. Kahle, of Ohio County, had sued Chesapeake, Chesapeake field representative Kevin Swiger and Delaware-based Statoil USA Onshore Properties, contending Chesapeake did not have the right to drill on their land because the company didn't hold a valid lease.

They said Texas-based Range Resources held the original lease, which it terminated in 2010.

The plaintiffs wanted the court to stop the defendants from entering or drilling on their land, to void the lease and award damages, fees and costs.

Chesapeake contended that it had acquired the existing lease with Range, and subsequently applied for a drilling permit.

Judge Frederick P. Stamp, in the U.S. District Court of the Northern District of West Virginia, had dismissed Swiger as a defendant, but his name appears on the settlement order.

Stamp's settlement order, dated Nov. 15, says, "matters in controversy ... have been compromised and settled." Other court documents show that the parties reached agreement on a number of issues during an Oct. 17 mediation session, and needed to hammer out a few final details.

The Kahles' attorneys could not be reached for comment late Wednesday afternoon.

Chesapeake spokeswoman Stacey Brodak emailed a statement: "Chesapeake and the Kahles settled this matter to their mutual satisfaction. Chesapeake has no further comment regarding the settlement, and intends to proceed with its planned operations."

WALL STREET JOURNAL front page Wednesday 30 November 2011:

NOVEMBER 30, 2011

U.S. Nears Milestone: Net Fuel Exporter

By LIAM PLEVEN And RUSSELL GOLD

U.S. exports of gasoline, diesel and other oil-based fuels are soaring, putting the nation on track to be a net exporter of petroleum products in 2011 for the first time in 62 years. A combination of booming demand from emerging markets and faltering domestic activity means the U.S. is exporting more fuel than it imports, upending the historical norm.

According to data released by the U.S. Energy Information Administration on Tuesday, the U.S. sent abroad 753.4 million barrels of everything from gasoline to jet fuel in the first nine months of this year, while it imported 689.4 million barrels.

That the U.S. is shipping out more fuel than it brings in is significant because the nation has for decades been a voracious energy consumer. It took in huge quantities of not only crude oil from the Middle East but also refined fuels from Europe, Latin America and elsewhere to help run its factories and cars.

As recently as 2005, the U.S. imported nearly 900 million barrels more of petroleum products than it exported. Since then the deficit has been steadily shrinking until finally disappearing last fall, and analysts say the country will not lose its "net exporter" tag anytime soon.

"It looks like a trend that could stay in place for the rest of the decade," said Dave Ernsberger, global director of oil at Platts, which tracks energy markets. "The conventional wisdom is that U.S. is this giant black hole sucking in energy from around the world. This changes that dynamic."

So long as the U.S. remains the world's biggest net importer of crude oil, currently taking in nine million barrels per day, it isn't likely to become energy independent anytime soon. Yet its growing presence as an overall exporter of fuels made from crude gives it greater influence in the global energy market.

If the trend toward net exports persists, it could also influence the national political debate over U.S. energy policy, which has been driven primarily by concerns about upheaval in the Middle East over the past decade. The independence of the U.S. from foreign oil sources has long been a lightning-rod issue in Washington, one further inflamed by last year's oil spill in the Gulf of Mexico. Supporters of off-shore drilling have used the desire for independence to push their cause, setting up a battle with environmental groups and others who prefer a shift away from carbon-based fuels.

Enlarge Image

U.S. exports of gasoline, diesel and other oil-based fuels are soaring. Above, natural gas is burned off near an oil pump jack in North Dakota in October.

The growth in exports is part of a "transformation of the energy system," says Ed Morse, global head of commodity research at Citigroup Inc. "It's the beginning signs of a process that will continue for the next decade and will point toward energy independence."

The reversal raises the prospect of the U.S. becoming a major provider of various types of energy to the rest of the world, a status that was once virtually unthinkable. The U.S. already exports vast amounts of coal, and companies such as Exxon Mobil Corp. are pursuing or exploring plans to liquefy newly abundant natural gas and send it overseas. The shift is one of the clearest demonstrations of the diverging fates of the U.S. and emerging market economies. While the U.S. labors under stubbornly high unemployment and sluggish growth, emerging-market economies are growing strongly, bolstering demand for fuel.

Related Video

Crude Oil Spikes on Possible EU Ban of Iran Oil (11/29/2011)

Brazil Fines U.S. Oil Giant Chevron \$28 Million (11/22/2011)

Return of \$100 Oil: How Consumers Will be Impacted (11/16/2011)

U.S. customers have been pulling back in part because an anemic economic recovery has left millions still looking for work. In August, U.S. drivers burned 7.7% less gasoline than four years earlier, when gasoline usage peaked. Production of ethanol made from corn has also ramped up dramatically in recent years, cutting into the need for other fuels. Now, "we're not using as much," said James Beck, an analyst at the EIA. "Prior to 2008, basically anything we produced, we used."

But U.S. drivers aren't seeing much benefit in the form of lower prices because refineries on the Gulf Coast are shipping much of their output to places where demand is strong, keeping prices high.

The U.S. was a net exporter of petroleum products in six of the first nine months this year, and the trend accelerated in the third quarter, with September data released Tuesday showing net exports of 919,000 barrels per day, more than any month this year. That indicates to observers that this year will be the U.S.'s first as a net exporter since 1949, when the U.S. economy was ramping up rapidly after World War II.

Mexico and Brazil were major consumers of U.S. exports, according to the September data, while the Netherlands—home to key European ports—and Singapore also were significant net importers.

Gasoline and low-sulfur diesel continued to be among the biggest lures for foreign customers, as was petroleum coke, which is used to make steel. Those are among the many products that are thrown off in the process of refining crude oil.

The growing exports have made the U.S. a pivotal part of the supply chain. In 2006, the U.S. was a net importer of petroleum products from Brazil, but last year it sent a net 106,000 barrels a day.

Argentina and Peru are now net importers from the U.S. For the next year or two, "the economies in Latin America will be growing faster than in the U.S. and the trend of increasing exports should continue," says Daniel Vizel, U.S. head of oil trading for Macquarie Group Ltd.

Singapore's net imports from the U.S. roughly quadrupled in the past five years, while Mexico's rose by about two-thirds. Mexico, in particular, is having trouble keeping pace with gasoline demand and buys about 60% of gasoline exports from the U.S.

The figures illustrate the impact of the significant increase in domestic production thanks to new sources of oil coming from North Dakota and Texas. North Dakota's oil production of 424,000 barrels per day in July was up 86% over the same period in 2009. Growing domestic output means refineries in the U.S. are making more fuel than the local market needs. That has given those on the U.S. Gulf Coast added incentive to look for customers abroad.

Also adding to the U.S. exporting firepower: Refineries are more efficient, giving them an edge over older facilities in Europe. New drilling methods are boosting U.S. oil production, helping ensure steady supplies of raw material for refiners to process.

The U.S. could expand its export trade further next year. Motiva Enterprises LLC, a joint venture between Shell and Saudi Arabian Oil Co., is expected to finish work next year on a refinery expansion in Port Arthur, Texas, which would double the facility's capacity and make it the largest in the U.S. Kinder Morgan Energy Partners LP and TransMontaigne Partners LP plan to build a \$400 million terminal on the Houston ship channel.

For decades through World War II, the U.S. was a net exporter of petroleum products, with sales reaching a high of 126 million barrels in 1944. The country then became a net importer in 1950, and grew increasingly dependent on foreign supply in the 1960s. Net imports peaked just above a billion barrels in 1973, the year domestic oil prices spiked amid the Arab oil embargo. After falling off in the 1980s and 1990s, net imports spiked again in the middle of the last decade before tapering recently.

To be sure, the balance could shift back relatively quickly. If the U.S. economy were to rebound sharply, domestic need for fuels refined from crude oil could also shoot back up, which could increase crude import demand. In addition, U.S. refineries could lose customers if foreign economies falter, sending the U.S. back to being a net importer.

Meanwhile, export demand is boosting corporate profits for oil majors, such as Exxon and Royal Dutch Shell PLC, and major U.S. refining firms, such as Valero Energy Corp. and Marathon Petroleum Corp.

"Unless there is a recession around the world, we're going to be exporting for quite some time," says Mike Loya, head of Americas for Swiss energy-trading firm Vitol Group, which moves more than five million barrels of crude oil and petroleum products every day.

Groundwater controversy follows fracking to Ohio

Thursday, December 01, 2011

By Chris Kirk, Pittsburgh Post-Gazette

Michael Henninger/Post-Gazette

Hundreds gather for a protest march against Shale Fracking outside of the Y.O.U.N.G. Shale Expo held at the Covelli Centre in Youngstown, Ohio on Wednesday.

YOUNGSTOWN, Ohio -- Demonstrators rallied outside an industry networking convention on Wednesday in what was one of the first major expressions of public distrust with the natural gas industry since the drilling boom spread to the state.

"Green jobs are what we need; fracking is a dirty deed," the protestors chanted on the sidewalks outside the convention at the Covelli Centre. Waving signs with statements such as "Keep our water safe" and "You can't drink money," the approximately 120 protestors demanded either that the natural gas industry leave the state or that the state government regulates it more responsibly than it has been.

Their demands reflected concerns about the environmental and health effects of hydraulic fracturing, or "fracking," a method of obtaining previously hard-to-reach natural gas resources that sparked a drilling boom in Pennsylvania.

Some have found the uncertainty surrounding hydraulic fracturing frightening and accuse the government of being irresponsible for allowing the practice to continue without more research.

"I'm terrified," said Jennie Scheinbach, a 37-year-old bakery owner from Columbus, Ohio. Security officials escorted her and other demonstrators out of the Covelli Centre after she began raising political issues during a question-and-answer session following a convention speech. "Some things are not for sale. Clean water is one of those things," she said, alluding to cases in which natural gas extraction has led to drinking water contamination.

The frequency and severity of such cases has been a matter of intense debate, both in the public and in academia, with the industry asserting that the practice is safe and tested. The federal Environmental Protection Agency is currently investigating the effects of hydraulic fracturing on drinking water and is scheduled to release its findings by the end of 2012.

Some business leaders accuse the volunteers of exaggerating and stress the economic opportunity that natural gas drilling offers to the region.

"This is a game-changer in our area," said Tony Paglia, vice president of government affairs as the Youngstown/Warren regional chamber of commerce, a private organization that organized the convention and aims to stimulate economic growth in the area. "It can be done responsibly."

Protestor Jaime Frederick, 33, of Coitsville Township, Ohio, said that after her neighbor leased his adjacent property to a drilling company, she became concerned about the effects the gas well next to her house may have on her water quality, air quality and property value. "We're trapped in our house now, and I'm not sure if we can drink the water," she said.

Some protestors demanded a moratorium on hydraulic fracturing in Ohio until the government can verify its safety.

"They should be proving to us that it is safe," said Vanessa Pesec, 51, president of the Network for Oil & Gas Accountability & Protection, an advocacy nonprofit that helped organize the protest.

However, business leaders at the convention said Ohio is ready to move forward with its local natural gas boom.

"If fracturing is a dirty word, jobs is a dirty word," said Thomas Stewart, executive vice president of the Ohio Oil and Gas Association in a speech at the convention, stressing that hydraulic fracturing is safe. "We can make this thing work. And in my view, the state of Ohio is ready to do that."

'Some things are not for sale.

Clean water is one of those things.'

Chris Kirk: ckirk@post-gazette.com

First published on December 1, 2011 at 12:00 am

Groups press Congress on climate
Thursday, December 01, 2011
By Juliet Eilperin, The Washington Post

WASHINGTON -- A broad coalition of civic leaders, elected officials, and labor, environmental and social activists launched a campaign Wednesday aimed at convincing U.S. politicians that they should curb greenhouse gas emissions for moral and ethical reasons.

The Climate Ethics Campaign, which kicked off with a Capitol Hill news conference headlining Senate Environment and Public Works Committee Chairman Barbara Boxer, D-Calif., comes as negotiators are struggling to make progress at U.N. climate talks in Durban, South Africa.

"We believe it's time to talk about our moral obligation to prevent the human suffering created by climate change, to safeguard the poor and most vulnerable communities from harm they did not create, and to protect the natural environment that is the source of all life," said campaign coordinator Bob Doppelt, executive director of the Resource Innovation Group, a nonprofit association affiliated with Willamette University.

But the call also comes at a moment when Congress has shown little appetite for tackling the issue of global warming. There is no serious drive to pass a cap on greenhouse gas emissions or a more modest federal renewable energy standard.

The climate talks are the first in years with not a single member of Congress attending. Only a handful of congressional aides are making the trip.

The 2009 U.N. negotiations in Copenhagen represented the high-water mark in terms of congressional attendance, with then-House Speaker Nancy Pelosi, D-Calif., leading a delegation of more than 20 members to the talks. Senate Foreign Relations Committee Chairman John Kerry, D-Mass., and Sen. James Inhofe of Oklahoma, the top Republican on the Environment and Public Works Committee, attended separately.

Michael Levi, senior fellow for energy and the environment at the Council on Foreign Relations, noted that in 2009 the House had passed a bill that would have imposed nationwide limits on greenhouse gases, and there was an expectation at the time that the Senate might pass a similar bill in 2010. "U.S. lawmakers aren't attending this year because there isn't much for them to contribute absent U.S. domestic action," Mr. Levi said.

In a statement, Mr. Inhofe noted that two years ago in Copenhagen he announced that climate legislation was dead even as Democrats assured U.N. delegates it would become law: "My friends on the other side of the aisle clearly don't want to face world leaders now that they've failed to deliver and as the Kyoto process is all but dead."

Mr. Kerry has attended six U.N. climate conferences, but his spokeswoman said he did not plan to go this year because his work on the deficit reduction committee was expected to continue through December.

House Energy and Commerce Committee ranking member Henry Waxman, D-Calif., said he could not make the trip because Congress was in session.

At the news conference, Ms. Boxer said it would take increased public pressure to ensure action on climate change. "Right now, we do not have the votes to do what we need to do," she said. "To take it to the next step, we need a grass-roots movement that is huge."

Some environmentalists have questioned the Obama administration's negotiating strategy in Durban; 16 environmental leaders sent a letter Tuesday to Secretary of State Hillary Rodham Clinton suggesting that her deputies commit to negotiating a binding climate pact by 2020.

First published on December 1, 2011 at 12:00 am

Chevron, Science Center pact aims to boost STEM learning
Thursday, December 01, 2011
By Mackenzie Carpenter, Pittsburgh Post-Gazette

A major energy company involved in Marcellus Shale natural gas drilling is the lead funder in a new three-year initiative at the Carnegie Science Center designed to steer more of the region's students into science, technology, engineering and math careers.

Chevron Corp., a Houston-based energy company that established operations here in February, is providing much of the \$1 million that will create the Chevron Center for STEM Education and Career Development.

The center will focus on developing partnerships with school districts in 22 counties to enhance classroom education and career counseling, said Ron Baillie, co-director at the Science Center.

"Students just aren't aware of the opportunities out there in the chemical industry or civil engineering, which might involve building the zero-energy buildings of the future or developing new, innovative materials," he said, noting that Pittsburgh is a major hub for the titanium industry, for example.

Not only do the city and region's students not know that, they are also far from being science or technology literate, according to a report released in November by A+ Schools, which found that only 22.5 percent of Pittsburgh high school students in the 2010-11 school year were proficient in science on PSSA tests, compared to 40.8 percent of Pennsylvania students as a whole.

Other "founding partners" at the center include California University of Pennsylvania, Duquesne Light, Eaton Corp., LANXESS Corp., NOVA Chemicals and PPG Industries Foundation. An advisory board composed of representatives from Chevron, local corporations, foundations and educational institutions will work with science center staff to develop the new center's role.

As the natural gas drilling boom intensifies over the next few decades, it is estimated that an expected 200,000 jobs will need to be filled, according to a recent study by Penn State University researchers.

"We have a game-changing thing going on with Marcellus Shale that will require an increase in the skilled workforce that can come from Pennsylvania," said Bruce Niemeyer, who heads the local Moon office of Chevron, one of the top drillers in the state.

"We expect to be here for the long term ... and this is a step in being part of the community. The Carnegie Science Center is a great organization for us to partner with."

A 2009 study by the National Research Council notes that informal, hands-on approaches to science enable students to grasp concepts faster and more easily.

Mr. Baillie, who was once a high school math and science teacher, remembered growing up in the North Hills "when it was all about book learning. The exceptional class was when they brought in something you actually touched."

Previously, it might be up to schools to call and ask about programs, but with the new funding, "we can be more proactive," Mr. Baillie said, and initiate contact first -- for example, about the Pennsylvania Regional Science and Engineering Fair, one of the largest in the country.

"We can now go to [schools] and say, here's a fair with amazing prizes, you've got corporations giving cash awards and 17 universities providing scholarships" that the schools might not have known about otherwise.

"We've never tried to bring teachers and businesses together, or parents to build public awareness about the need for students [to take] upper-level science, math or engineering courses," added Ann Metzger, co-director with Mr. Baillie.

Other initiatives in the planning stages will be aimed at minorities and girls, she said -- two groups that tend to abandon math and science -- that would involve hands-on experience at the Science Center, say, in an after-school program

where they'd be trained to perform a physics experiment looking at the effects of gravity.

The programs will be aimed at pre-kindergarten and elementary school students "at a time when they are all naturally curious, natural scientists," Mr. Baillie said, "because if you wait until high school, or even junior high, it's too late."

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Mackenzie Carpenter: mcarpenter@post-gazette.com or 412-263-1949.

Charleston Gazette Thursday 1 December 2011:

November 30, 2011

CONSOL agrees to stream cleanup settlement

By [Ken Ward Jr.](#)

The Charleston Gazette

CHARLESTON, W.Va. -- CONSOL Energy has signed on to a legal settlement that marks the first time a coal company has agreed to clean up conductivity pollution associated with a valley fill, an environmental group lawyer said Wednesday.

Under the deal, CONSOL could eventually be forced to install an expensive treatment system to clean up water quality violations in Boardtree Branch related to the subsidiary Fola Coal's Surface Mine No. 3 in Clay and Nicholas counties.

The settlement, which requires approval from U.S. District Judge John T. Copenhaver, resolves a lawsuit filed by the Sierra Club and the West Virginia Highlands Conservancy in October 2010.

Lawyers for the groups alleged that the mine was discharging pollutants that cause acute and chronic toxicity and biological impairment to the aquatic life in Boardtree Branch. The suit cited the state's narrative water quality standard, meant to protect aquatic life, and increased electrical conductivity related to the mine's pollution.

Scientists use electrical conductivity as a key indicator of stream health and the presence of other important pollutants such as chlorides, sulfides and dissolved solids. Recent research

has found increased conductivity downstream from mining operations in Appalachia and scientists have linked impaired aquatic life to those increased conductivity levels.

Both the U.S. Environmental Protection Agency and the state Environmental Quality Board have cited conductivity increases downstream from mining operations as a key problem the state Department of Environmental Protection isn't doing enough about.

Under the settlement, CONSOL will first be able to try its own version of a stream restoration project, involving creation of a floodplain and sulfate-reducing wetlands, to clean up about 3,000 feet of Boardtree Branch. Biological samples will be taken after the project and an independent biologist will decide if aquatic life has improved.

If the CONSOL project doesn't work, the company will be on the hook to build a more expensive treatment system at the site, the settlement says.

"It's significant because for the first time a coal operator has agreed to comply with the narrative water quality standard related to a valley fill," said Joe Lovett of Appalachian Mountain Advocates, a lawyer for citizen groups that filed the case. "It's scientifically indisputable that valley fills cause high conductivity and impair life in streams. This coal company has agreed to remedy that."

Lynn Seay, a CONSOL spokeswoman, said the agreement is "consistent with our ongoing efforts to be good environmental stewards and neighbors in the locations where we operate."

The agreement also requires Fola to pay \$200,000 to the West Virginia Land Trust to help fund the West Virginia University College of Law's new Land Use and Sustainable Development Clinic. The company must also pay a \$25,000 fine to the federal government.

Earlier this year, CONSOL had agreed to build a \$200 million treatment system aimed at resolving water quality problems at four of its mining complexes in north-central West Virginia.

Reach Ken Ward Jr. at kw...@wvgazette.com or 304-348-1702.

November 30, 2011

Tomblin wants to 'tweak' Marcellus bill

By [Phil Kabler](#)

The Charleston Gazette

CHARLESTON, W.Va. -- Gov. Earl Ray Tomblin said Wednesday he hopes his administration will be able to adjust draft legislation for regulation of Marcellus Shale drilling in time for a special session in mid-December.

But a leader of the legislative committee that put the bill together thinks Tomblin's "tweaks" would gut the bill.

Tomblin said Wednesday that the state Department of Environmental Protection "is looking at the recommendations. There will be a few tweaks to the bill the subcommittee has recommended," said Tomblin, referring to a House/Senate select committee that approved a draft bill on Nov. 16, following months of meetings on the issue.

"Hopefully, we'll get an agreement, and will be able to call a special session to coincide with the December interims," he said.

Monthly legislative interim meetings are scheduled for Dec. 12-14.

Among the changes Tomblin said he would like to see in the bill would be to move certain regulations that are currently written into the bill, such as standards for gas well casings, to a legislative rule-making review process.

"The way technology is changing ... more of these decisions should be left to DEP," he said.

Typically, regulatory legislation sets out broad goals and guidelines, but leaves the specifics for writing and enforcing the regulations to the particular agency, subject to the Legislature's rule-making review process.

However, Delegate Tim Manchin, D-Marion, co-chairman of the select committee, said having minimum standards set in state law is the core of the proposed legislation.

"To have these minimum regulations in there, or minimum guideline standards, will do a lot to alleviate the fears of our people about this industry, and improve the industry's standing to the public," Manchin said.

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"I feel that's the heart of this bill: To guarantee to our people that we're doing all we can that's reasonably possible to assure there won't be contamination of our underground drinking water supply," he said.

Tomblin said he also has concerns with provisions in the draft bill that would require drilling companies to file disclosures with the Division of Labor, providing a breakdown of resident and out-of-state employees, including identifying hometowns and salary schedules for in-state versus out-of-state employees.

Tomblin said he's "100 percent supportive" of creating jobs for West Virginians, but said the proposed disclosure requirements would be unprecedented.

"As far as I know, that would be the only industry that would have to report where its employees come from," he said.

Manchin, meanwhile, said he doesn't understand why the industry is opposed to compiling jobs data, since they already have that information in personnel records.

"I'm concerned they're fighting it because they know how bad the numbers will look," he said.

Nonetheless, Manchin said there's still opportunity for the Legislature and Tomblin administration to reach consensus in time for a December special session.

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Reach Phil Kabler at ph...@wvgazette.com or 30-348-1220.

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THE STATE JOURNAL:

Eight Communities Compete for Brownfields Funding and Expertise

Posted: Nov 30, 2011 4:46 PM EST Updated: Nov 30, 2011 5:01 PM EST

Eight West Virginia communities' redevelopment projects will compete Dec. 2 for four funding packages in "Extreme Makeover: Brownfields Edition."

The participant-driven event emphasizes competition among community projects, similar to the experience of seeking funding and assistance in the real world, said Patrick Kirby, director of the Northern West Virginia Brownfields Assistance Center at West Virginia University.

The event kicks off the West Virginia Redevelopment Collaborative, a new program designed to tackle obstacles to brownfield redevelopment by matching teams of faculty experts with community projects.

Brownfields are properties that sit undeveloped because of a variety of real or perceived environmental barriers. Examples include former gas stations, glass factories, machine shops, manufacturing and processing facilities, dry cleaners and mine-scarred lands that sit at abandoned communities across the state.

On Dec. 2, the brownfields redevelopment projects of Berkeley Springs, Chester, Fairmont, Moundsville, Osage, Parkersburg, Shinnston and Wheeling will be represented in the Extreme Makeover event.

Four of those projects will be selected to receive more than \$20,000 in funding as well as the opportunity to collaborate with faculty teams that have expertise in disciplines that will help them toward their goals.

Participating academic disciplines include landscape architecture, business administration, public administration and law. Faculty from West Virginia University, Marshall University, Concord University, Davis & Elkins College and other state institutions will comprise the multi-disciplinary teams.

Event co-hosts include the West Virginia Campus Compact, the West Virginia Community Development Hub and the WVU Division of Design & Merchandising.

To learn more about the West Virginia Redevelopment Collaborative, visit the [Brownfields Assistance Center](#) or contact Program Coordinator Carrie Staton at Carrie.Staton@mail.wvu.edu or (304) 293-7071.

Energy Regulation a Delicate Balance Between Health and Economy

Posted: Nov 30, 2011 3:26 PM EST Updated: Nov 30, 2011 3:27 PM EST
By Taylor Kuykendall, Reporter

State and federal politicians leveling phrases such as "job-killing," "out-of-control" and "over-reaching" at federal agencies have prompted a complex debate on how to walk the line between over-taming business and letting industry run wild.

Animosity toward the Environmental Protection Agency boiled over in West Virginia when the EPA vetoed the Logan County Spruce Mine permit for what would have been the largest surface mine ever constructed in West Virginia. State officials from the top to bottom cried foul, claiming the EPA had reached into the affairs of the state and jeopardized its economic security.

Meanwhile, the EPA cited the mine operator's unwillingness to compromise and mitigate the mine's impact on the nearby environment. The EPA warned the site would kill wildlife and pollute nearby streams. It intervened to prevent potential environmental impacts the agency called "truly unacceptable."

The industry points to examples such as AEP's announcement this past summer it would prematurely shutter five coal-fired power plants to comply with EPA regulations. AEP said at the time of the announcement that the clean air regulations would raise electricity prices 10 to 35 percent and cost 600 jobs.

"The EPA's onerous regulations and unreasonable compliance timelines are hurting West Virginians ability to put food on their family's tables, and that has to stop if we are ever going to get this economy back on track," said U.S. Sen. **Joe Manchin**, D.-W.Va.

Proponents of stricter coal regulations say people should look at the proliferation of low-emission energy generation as proof that the economy and energy market can flourish under air and water pollution restrictions.

Roger Noll, an economics professor at Stanford University and co-director of the university's program on regulatory policy, recently told the Washington Post much of the argument is a matter of perspective.

"If you're a coal miner in West Virginia, it's not a great comfort that a bunch of guys in Texas are employed doing natural gas," Noll said. "Some people identify with the beneficiaries, others identify with those who bear the cost, and no amount of argument is ever going to change their minds."

Armando Benincasa, an energy/environmental law attorney with Steptoe and Johnson, said the argument itself is not doing the industry any favors.

"I think the biggest issue that you have right now is that there is a sense of uncertainty with regard to what exactly some of the regulations are going to look like," Benincasa said.

The debate between those supporting a heavy handed government versus those who don't prompts sensitive questions, particularly for West Virginians. If the Upper Big Branch mine had been shut down for safety violations before it exploded, killing 29 miners, would the Mine Safety and Health Administration have experienced a backlash from the same people who defended the Spruce Mine permit? Would the jobs created by the Spruce Mine permit have been more valuable than preventing what the EPA had identified as "unacceptable" destruction?

As pointed out by Noll in the Washington Post story, though West Virginia coal miners may be losing their jobs, in the bigger, federal picture, there is very little job loss resulting from regulations. According to the Bureau of Labor Statistics, only about three-tenths of 1 percent of the people who lost their jobs in layoffs lost those jobs due to government regulations or intervention. A drop in business demand, on the other hand, resulted in layoffs of about 25 percent.

Laws Without Lawmakers

Although regulations have the force of law, the details of those regulations are often not written or even passed by lawmakers. Writing laws giving that authority to regulatory bodies ensures those with the resources and technical ability to do so write the details lawmakers may not understand or have time to address.

In addition to broad authority, regulators, who often are not elected or required to answer to a voting constituency, are given flexibility to change and adapt regulations within various parameters outlined by the legislation.

"Such an approach recognizes that it is often much less efficient and less time-consuming to pass or amend a law than it is to change the course of regulation via agency rulemaking," said Patrick McGinley, a professor of law at West Virginia University.

The system allows regulations to be put into place with more efficiency than the sometimes tedious process of passing new legislation.

"Legislators may have majority agreement that regulation is needed, but there is no consensus as to how the regulation should work," McGinley explained. "Writing a law that gives broad general power to an administrative agency allows legislators to obtain sufficient consensus to pass a bill into law."

While the customary process does increase efficiency, it also gives policymakers a means for escaping culpability for the effects of those regulations.

"A corollary rationale recognized by administrative law experts is that legislators realize that the broader and more general is a statutory mandate to regulate, the easier it will be for them to deny responsibility when the agency seeks to implement the law by proposing regulations that receive criticism from some or many segments of the public," McGinley said. "The politician can say to his or her constituents, 'The agency isn't following the intent of the law I voted for' – a relatively easy out that a politician can use to disassociate him or herself from a law they voted for."

Costs of Business

In response to recent regulations issued by the EPA, Chris Hamilton, vice president of the West Virginia Coal Association, argued in an opinion piece in the Charleston Daily Mail that hostile policy was to blame for recent declines in coal revenue. While acknowledging increasing geologic difficulty and struggles amid the recession, the ability to get a mining permit from the Obama administration, Hamilton said, has become "virtually impossible."

"... (E)ven permits that have already been approved have been cast into doubt by the action of the EPA in revoking a previously granted four-year-old permit for the Spruce surface mine in Logan County," Hamilton wrote. "That effectively says to any business that depends on obtaining permits from the federal government that promises are not worth the paper on which they are printed. How can this not have a chilling affect on investment and business activity?"

Manchin also pointed to the Spruce mine permit revocation as an example of EPA overreach, an action that angered a number of coalfield politicians.

"The permit had already been approved after an exhaustive, approximately 10-year regulatory process which included time for an extensive review by the EPA," Manchin said. "This irresponsible example of EPA overreach was not only bad for the coal mining industry and the more than 200 jobs that were expected to be created by the Spruce No. 1 Mine in West Virginia. Actions like these also have a chilling effect on other investments and our economic recovery.

"The Spruce Mine decision sent a very clear message to anyone doing business with the federal government: We have no intention of keeping our word."

Hamilton said if it wasn't for onerous and burdensome regulations leveled specifically at West Virginia miners, there would be no decline in coal production.

"West Virginia coal miners are the best in the world," Hamilton wrote. "They can compete with anyone in the world if the playing field is level and the rules of the game are defined. Today, however, the rules are different for miners in West Virginia than they are for miners in President Obama's home state of Illinois or those in western reserves."

Manchin also says the present administration is using its power not to broadly regulate business, but to pick "winners and losers" in the energy game. Many in the West Virginia coal industry believe Obama has pegged West Virginia's coal as a "loser" in the nation's energy future.

"The fact is that in 2010, coal generated 45 percent of our nation's electricity, and at the current time, we have nothing that can take its place," Manchin said. "But rather than working with those of us in energy-rich states like West Virginia to find cleaner and more efficient ways to use our

base resources, this administration has focused on demonizing coal, creating a great deal of uncertainty in the energy industry that is jeopardizing job creation all across this country."

The concern of many businesses is often that costs will overburden their operation and affect their bottom line to the point they cannot compete – either with similar industries such as coal versus natural gas for electricity generation or with foreign markets of the same resource.

"This claim has the most resonance when the competition is foreign-made goods or services from countries where there is little or no regulation that forces foreign-based companies to internalize costs," McGinley said. "The issue in that context forces our state and nation to decide to what extent we want reduce regulation and allow a return to externalization of costs and harm to individuals, families and communities – goods and services are certainly much less expensive in countries where coal mines are unsafe, the safety of food and drink are not subject to regulation, and industry can freely pollute water and air and dispose of toxic chemicals without regulation wherever they choose."

Business Unregulated

Few argue that all government regulation should be removed. Those who defend government intervention point to the lack of regulation as the cause for the BP Gulf oil spill, the housing crisis and the banking crisis of recent years.

Ted Boettner, executive director of the West Virginia Center on Budget and Policy, said regulations may not necessarily benefit the economy, but there is very little evidence that regulations hurt the economy either.

"The repeal of Glass-Steagall was one of the precipitating factors that led commercial banks to play a vital role as buyers and sellers of mortgage-backed securities, credit-default swaps and other damaging financial derivatives," Boettner said. "Regulation is necessary for well-functioning markets, something that became abundantly clear when the housing bubble popped and left over eight million Americans and 40,000 West Virginians unemployed."

The recent recession and economic woes the country has faced has made health and environmental protections not a given, but instead something that must be balanced against job creation, Boettner said.

Manchin recently introduced legislation that would delay implementation of two EPA rules crafted to reduce air emissions.

"This bipartisan, common-sense bill would create reasonable timelines and benchmarks for utilities to comply with two major EPA rules to protect jobs as well as the affordability of electricity and the reliability of the electric grid," Manchin said.

Todd Wynn, the American Legislative Exchange Council's energy, environment and agriculture task force director, said the act would not weaken the rules, but it would give companies a fair amount of time to comply with the regulations.

"The bill does not change the stringency or reduction levels of any EPA regulations," Wynn said. "But it would help to minimize the damage of the train wreck that will happen if the regulations pile onto American consumers and manufacturing companies too fast."

Rep. Shelley Moore Capito, R-W.Va., has suggested that the EPA be required to include consideration of jobs lost in crafting new regulations. She has frequently requested West Virginia industry leaders to tell her specifically which regulations are burdening their businesses.

Rules that are overly onerous without any known benefits often face little support on the legislative floor. If they are overlooked in passage, often they are repealed. The problem is when competing interests have difficulty sacrificing or compromising on the regulation.

Boettner said often the issue is the conversation on regulation often focuses on the cost to a few businesses without looking at the broader effect on the economy. Opponents of regulations affecting a specific industry often cast the rules in the light of being broadly anti-business.

A New Model

With the boom of the state's natural gas industry as a result of Marcellus shale gas play discovery, the state has been pushed to create a new set of regulations. While being written, some of the mistakes of the largely unregulated coal industry in its beginnings have come forward in debate.

"It is in the industry's best interest to have a well-thought-out, scientifically based regulatory scheme," said Benincasa, an attorney who has worked closely with the industry. "I think that for the purposes of having certainty with regard to your operations, you don't want to operate within the Wild Wild West; you want to operate in an area where everyone follows a fair set of rules based on science that allows you to compete."

Benincasa said the natural gas drillers who are flocking to the state and surrounding areas with access to the gas-rich Marcellus shale are watching West Virginia's attempt to regulate the shale very closely. Ineffective policy, he said, could drive competition to other states.

Permit fees, he said, are one example of regulation that could hurt the growing industry.

"I think everyone in industry agrees that the permit fees have to be raised in order to support the regulatory programs but at the same time we don't want to raise them to the point that we become uncompetitive with the fee structures that are contained in Ohio and Pennsylvania, for example, which are substantially less than \$10,000 a well," Benincasa said.

Language, Benincasa said, is what makes drillers so nervous about the current proposed legislation floating about in the West Virginia's statehouse. For example, depending on the definition of a stream, what may be a reasonable regulation could be used to shoo industry away from nearly everywhere in West Virginia.

"If you go to a USGS map of West Virginia and look at everything that is potentially labeled as a stream, you'll find that once start making circles of 500 to 1,00 feet away from those locations, you are basically sterilizing large portions of the state from potential development. Words mean something, especially in statute."

Benincasa also warns about writing regulations that could stifle innovation in a way that is counterintuitive to legislative intent. For example, he said, specific language about casing requirements could prevent developments in an industry where technology is being developed rapidly.

"The most important aspect of smart, innovative regulations is the ability of states (or countries) to get ahead of the curve rather than encouraging marginal responses that will make West Virginia less competitive," Boettner wrote in an e-mail response. "If West Virginia can move early, instead of digging its heels into the past, it will help businesses increase competitiveness and exports, as well as prepare them to meet standards imposed in other regions or countries. Setting the stage for successful negotiation about carbon emissions, state leaders and the business community can move beyond the stalemate and antagonisms that exist between government and industry and work toward a 21st century relationship grounded in shared values that improves the quality of life in West Virginia."

According to Harvard Business Review authors Michael Porter and Mark Kramer, "the right kind of government regulation can encourage companies to pursue shared value; the wrong kind works against it and even makes trade-offs between economic and social goals inevitable.

Good regulations, the two write, set clear and measurable goals, set performance standards that do not limit methods to achieved them, define phase-in periods for meeting standards, put in place universal measurement and reporting systems and require efficient and timely reporting of results.

Leaving elements of the regulation open, the authors argue, encourages innovation on a level playing field that benefits society as well as business.

"To be sure, companies locked into the old mindset will resist even well-constructed regulation," Porter and Kramer write. "As shared value principles become more widely accepted, however, business and government will become more aligned on regulation in many areas. Companies will come to understand that the right kind of regulation can actually foster economic value creation."

Spin-off Benefits of Regulation

Regulations aimed at specific businesses, such as coal combusters, no doubt impose costs on those industries. In some cases jobs are added to meet compliance. In other cases, companies must make cuts to comply.

What is often overlooked is the indirect benefits of some regulation. Opponents of a given regulation often focus on the trickle-down effect of over-reach such as hikes in electricity prices, potential intermittency and other effects of what is thought to be as industry-crippling rule.

Boettner points to another downstream effect that is usually ignored – the addition of jobs and economic activity from increased requirements.

"Almost all of the federal government's regulations are subjected to cost-benefit analysis, and almost all have benefits that far outweigh the costs, so the economy as a whole benefits from regulation," Boettner said. "Individual companies might have to purchase new pollution control equipment, but that benefits a manufacturer of the equipment and the firm that transports it and the firm that installs or services it."

Boettner added the public sector can also benefit as a result of regulation. Health care costs that rely on taxpayer funding are often reduced through public health-focused regulation.

Sometimes, McGinley said, the costs cited by business are not new costs but instead are costs that were once taken on by someone else.

"As a general matter, many regulations are intended to force business and industry to internalize costs that previously were externalized to individual property owners, families and communities, and to taxpayers," McGinley said. "Externalization, in the context of regulations means allowing a person or company to cause harm or impose costs that the person or company doesn't pay for."

McGinley points to black lung benefits as an example. Medical costs were once the responsibility of the affected miner, but the black lung benefits act provided assistance for those miners and families.

Measuring Costs

The anchor of much contention between the two sides of the debate is they mostly have different ideas of how to measure the success of legislation. Regulators, generally, are less concerned with job creation, at least as far their job description is concerned.

Sen. Jay Rockefeller, D-W.Va., said reconciling those groups is a matter of getting opponents on both sides of issues to "truly listen" to one another to find solutions.

"There's no question that lawmakers should take into account the effect energy policy has on our workforce," Rockefeller said. "But that doesn't mean we shouldn't look closely at industry practices that could have an impact on public health. I firmly believe that West Virginia can find a

balance here. We are blessed with an abundance of natural resources, and there is no reason we can't properly use them to support our economy, protect working families and create jobs while ensuring our natural environment gets the protection it deserves and we all need."

Regulatory agencies such as the EPA and the Occupational Safety and Health Administration are charged with improving the health of workplaces and the environment.

"Costs and benefits, though, cannot be ascertained by pure economic analysis. For example, the dollar costs of black lung disease do not include the emotional and physical impacts on the victim and his family," McGinley said. "An economic dollar-based calculation of costs of mine safety regulation is not sufficient in assessing whether regulation should be imposed. One cannot place a dollar value on the loss of a father, son or brother in a coal mine explosion. Thus, proper consideration of whether and how to regulate should include serious consideration of costs and benefits that cannot be reduced to a dollar value."

The EPA estimates the Clean Air Act amendments of 1990 has saved 160,000 lives in the past year. OSHA rules are largely attributed for cutting workplace fatalities to less than half in 40 years despite exceptional growth in the numbers in the workforce.

"When it comes down to it, I know all West Virginians care about their environment," Manchin said. We all want clean air and clean water for ourselves, our children, and our children's children. The difference is that some of us are looking for that balance between the environment and the economy that allows us to prosper."

The difficulty faced by policymakers is comparing very measurable effects such as job loss, with less obvious health and environmental damage.

"Regulation is certainly not the answer to every ill of society, but it has an important role to play in the 21st Century," McGinley said. "Moving past the contentious arguments of various interests, the true test of a government and its citizens is whether the decision will be based on objective facts that accurately identify long and short-term costs and benefits of regulation. Achieving that goal, however, is easier said than done.

"Regulations generally are not as divisive as portrayed by the interest groups that are most frequently cited. Most policymakers, industry and other affected parties believe there is hope for a "happy medium," Benincasa said.

"It's always fair to say the louder voices seem to carry the publicity," Benincasa said. "There are reasonable people that can come to some sort of understanding and agreement with regard to these types of issues."

Hundreds Hunt For Drilling Employment

Oil & gas industry holds job fair in Moundsville

December 1, 2011

By CASEY JUNKINS Staff Writer , The Intelligencer / Wheeling News-Register

MOUNDSVILLE - Susan Ferris, Tim Price and Randy Mick have different qualifications and backgrounds, but each of them may be able to work in the oil and gas industry.

These local residents joined at least 1,200 other people in seeking employment Wednesday during the Independent Oil and Gas Association of West Virginia job fair in Moundsville.

Having representatives of 40 production and service companies on hand to speak with potential workers shows the industry is willing to hire locally, said Association Vice President R. Dennis Xander.

Photo by Casey Junkins

Tim Price, left, of New Martinsville speaks to XTO Energy District Superintendent Tim Hare during the Wednesday oil and gas industry job fair in Moundsville.

"We want to hire people from West Virginia. But what people need to understand is that if your company is drilling wells in a different state, you have to go there to work," Xander said when asked about complaints from local labor unions regarding out-of-state employees taking most of the drilling jobs.

"Just because you see vehicles with out-of-state tags doesn't mean anything. The vehicles may just be registered in that state," he added.

Ferris, a St. Clairsville resident, has been unemployed since her former employer eliminated her position this summer. She is looking to do some accounting work for a gas driller.

Chesapeake Energy "said there will be some local accounting positions," she said, and Consol Energy also said there would be some administrative and accounting positions available.

Price, a New Martinsville resident, said he is looking for more steady employment as he spoke with representatives of XTO Energy, the natural gas subsidiary of Exxon Mobil.

Moundsville resident Roger Metz also wants full employment.

"I have a lot of experience working with concrete," and drillers use it to case their wells, Metz said.

Randy Mick of Sardis is now employed by Walmart, but would like to put his welding skills to work in the oil and gas business. Blake Pottmeyer drove from Parkersburg to apply for a job with a gas company.

"They were pretty helpful," Pottmeyer said. "Hopefully, I'll get a call."

Xander said one key to increasing the number of industry jobs is to keep natural gas demand closely lined to supply, rather than flooding the market with the product.

"I have wells that produce, in 30 days, what it used to take a well 25 or 30 years to produce," he said in highlighting the technological improvements because of horizontal drilling and fracking.

Because of relatively high natural gas supply and relatively low demand, the current price per 1,000-cubic-foot unit is about \$3.35, Xander said. This is much lower than the \$14 or more each unit cost in 2008, but he believes the price "will come back."

"As some coal-fired electric plants are replaced with natural gas-fired electric plants - and as more cars begin to run on natural gas - we will see demand go up," he said.

In addition to the public believing the drillers are using out-of-state workers, Xander said another misconception of his industry is that it is seeking to "rip off the public."

Those who own mineral rights in West Virginia have the right to extract their gas and oil - even if someone else owns the surface on top of those minerals -but this is not the situation

his industry seeks, Xander said. However, the oil and gas business also did not create these "split estates," he added.

"I would rather have a root canal than drill a gas well on land owned by a surface owner who does not own their minerals," Xander added, although acknowledging that drillers are doing this throughout the state.

Consol Now Hiring for Both Gas and Coal

December 1, 2011

By CASEY JUNKINS Staff Writer , The Intelligencer / Wheeling News-Register

MOUNDSVILLE - Consol Energy is so ready to hire new coal miners that applicants do not need experience in the field, said Gary Bluhm, the company's human resources manager.

Applicants may be hired before they even complete an 80-hour safety and training course, he added.

"In some cases, you can get that training during your first two weeks on the job," Bluhm said during the Oil and Gas Association of West Virginia Job Fair held Wednesday in Moundsville.

Although the association held the fair primarily to showcase jobs available in the gas and oil industry, Bluhm said Consol is looking to hire workers for its coal operations, as well as the gas and oil business.

"We hire a lot of people because some of them don't work out. Coal mining is not for everyone," he said.

And even as Consol Energy's customers face increasing federal pressure to reduce coal emissions, the company still needs more coal miners.

"We had a long line of people here today looking to learn about opportunities with Consol," Bluhm said.

Despite digging deeper into the natural gas business via subsidiary CNX Gas Corp., Consol remains known locally for its Marshall County coal mining operations at the McElroy and Shoemaker mines.

Other West Virginia Consol mines, according to the company's website, include: the Blacksville mine near Morgantown; Loveridge mine near Morgantown; Robinson Run mine near Fairmont; AMVEST-Fola complex in central West Virginia; Southern West Virginia Resources in the southern part of the state; and the Miller Creek Complex in the southern part of the state.

Other Consol coal operations include the Harrison Resources surface mine near Cadiz. Consol produced 14.7 million tons from July 1-Sept. 30, including 1.4 million tons of metallurgical coal from the Buchanan Mine.

Consol's gas producing subsidiary, CNX Gas Corp., recently achieved peak production of 39.4 million cubic feet per day from the first five wells on a new 10-well pad in central Pennsylvania. CNX now has two rigs drilling in Greene County, Pa. and a third rig drilling in

the Majorsville area of Marshall County. The Majorsville well pad is the first entry by CNX into what is believed to be the liquids-rich portion of the Marcellus formation.

Company officials believe a 10-well pad in central Pennsylvania is the industry's largest single Marcellus site drilled to date. The 10 wells were drilled and completed for about \$48 million, with drilled laterals cased and completed totaling 41,200 feet. The longest of the 10 laterals shafts was 5,517 feet.

NEW YORK TIMES 1 Dec 11:

November 30, 2011

Running Dry on the Great Plains

By JULENE BAIR

Longmont, Colo.

IMAGINE you are a farmer in the center of the country, where it seldom rains enough. Now imagine that a well driller came to your farm and told you that he could bore a hole deep into the ground, and that forever after you could pump out as much water as you needed to grow your crops. That is exactly what happened on the Great Plains in the mid-20th century. The wondrous resource containing all that water was the Ogallala Aquifer.

The Ogallala underlies portions of eight large states — 174,000 square miles of crop and range land all the way from South Dakota to Texas. Over the last several months, it became about as famous as a geologic formation can get. With the nation's environmentalists at their side, Nebraska landowners battled ferociously against the Keystone XL pipeline, which would have carried oil extracted from Canadian tar sands through the environmentally sensitive Nebraska Sand Hills. If the pipeline leaked, they argued, chemicals and oil would seep down into the aquifer, contaminating a precious resource responsible for [27 percent](#) of the nation's irrigated agriculture.

They won — for now. President Obama agreed last month to reconsider the pipeline's route. So is the Ogallala now safe? Not quite. Regardless of whether the pipeline was a good or bad idea, it was never the real danger. The true threat is posed by agriculture as it's currently practiced on the Great Plains by the farmers themselves, many of whom opposed the pipeline vehemently. The aquifer is being wasted and polluted. Wasted, that is, on corn, a thirsty crop that requires over 20 inches of irrigation water in parts of the Plains. And polluted with pesticides and nitrogen fertilizers.

It's not that I don't empathize with the Nebraska farmers. I grew up on a Kansas farm. Like them, we called our Ogallala water "precious" and bragged that it was the best in the world. But the aquifer's only natural recharge comes from rain and snow. In our Kansas district, less than half an inch of that reached the aquifer in a given year. We were allowed to pump out over 30 times that amount.

When I expressed concern, my father assured me that the government would step in to stop us someday. Until then, he liked to tease, "I got mine!" But the government has not stepped in. Controls imposed by local water districts — run by irrigators themselves — and by state legislators dependent on the farm vote have been minimal at best.

As a result, in some areas of Kansas and Texas, farmers can no longer pump enough to water their crops. If current withdrawal rates continue, usable water in most areas will be gone by the end of this century.

The aquifer in the Nebraska Sand Hills gets more recharge than elsewhere, because rain and snowmelt seep quickly through sand. Opponents of the Keystone XL pipeline argued that this characteristic made that part of the aquifer particularly susceptible to contamination. They were right. But contaminants are already there. According to a report by the United States Geological Survey in 2009, 90 percent of samples taken from shallow groundwater in Nebraska portions of the Ogallala contained nitrate from fertilizers.

The Ogallala is a geologic formation, not an underground lake that can be widely contaminated by a localized spill. Water fills the spaces between sandstone, gravel, clay and other sediments, which slow the water's lateral travel. A pipeline leak would have been minor compared to the damage that chemically dependent agriculture causes.

Chemicals trickle inexorably downward with each rainfall or application of irrigation water, creating a situation that the Geological Survey has referred to as "creeping normalcy." Over the coming decades, it warned, contaminants will continue to creep down into the aquifer, and more wells will exceed federal safety levels.

Already, 14 percent of all Ogallala irrigation wells tested contained one pesticide or more. Most common was Atrazine. This herbicide, used ubiquitously in cornfields, is a known hormone disruptor and is suspected of, among other things, retarding fetal development. Five percent of the irrigation wells contained nitrate levels equal to or in excess of safety standards set by the Environmental Protection Agency. Excess nitrate levels in drinking water can impair the blood's ability to deliver oxygen in infants, causing "blue baby syndrome."

Why haven't viable environmental groups formed to protect the Ogallala? Because corn contributes so much to the economy that its reign is seldom questioned. Federal subsidy payments to corn growers and the federal mandate to produce ethanol underwrite the waste and pollution.

These subsidies should end. When the farm bill comes up for reauthorization next year, Congress should instead pay farmers to reduce their dependence on irrigation and chemicals. The eastern Nebraska climate is moist enough to grow corn without irrigation. That is how the University of Nebraska football team came to be the Cornhuskers. And the more arid High Plains to the west are known as the nation's breadbasket because wheat, a drought-tolerant crop, thrives there.

The Keystone XL pipeline posed a potential threat to a limited region. But agricultural waste and pollution are damaging the entire Ogallala Aquifer right now. In an era of growing population and advancing drought, we cannot afford complacency in the face of "creeping normalcy."

Julene Bair, the author of "One Degree West: Reflections of a Plainsdaughter," is at work on a memoir.

Binghamton NY PressConnects.com:

Guest Viewpoint: Drilling will help farms to survive and expand

4:50 PM, Nov. 29, 2011

[Guest Viewpoints](#)

In New York, we have a unique opportunity to tap into one of the largest natural gas reserves in the world in the Marcellus and Utica shales. Provided that we ensure proper safeguards, we have the ability to create thousands of good jobs and stimulate a sustained economic recovery in the Southern Tier and throughout our state.

As a farmer and as president of New York Farm Bureau, I have advocated for the safe and responsible exploration of this abundant energy source below ground to help maintain our livelihood above.

For farms, development of the Marcellus and Utica shale formations means the ability to reinvest in equipment and infrastructure. Farmers can build new barns, add cows to allow the next generation to stay on the farm or purchase a new tractor. These on-farm investments will then multiply through the local economy and grow local businesses and create jobs across many sectors.

According to the New York state Department of Environmental Conservation, average natural gas development will provide 17,634 full-time direct jobs and

29,174 full-time indirect jobs. It is likely that a member of a farm family may seek employment with the natural gas community to secure a well-paying, stable job with benefits.

While I am an advocate for natural gas development and believe it can be done safely, New York Farm Bureau has always advocated for strong oversight to ensure that our natural resources are secure. As a farmer, my first priority always will be protecting our land and water, because that will always be how farmers make their living.

Proper statewide regulation will promote the safe and responsible development of natural gas that also protects our land and water, while giving our state's economy a sorely needed boost. We applaud Gov. Andrew Cuomo's work to move this effort forward.

New York farmers take our role as stewards of our precious land seriously, but we also believe strongly in the economic potential of gas drilling. Farmers are the largest landowners in rural communities and our families will be affected by every decision Albany makes about natural gas development.

New Yorkers need energy to live and work, and tapping into the vast potential in the Marcellus and Utica shales will help our economy by reducing the high cost of energy.

Those opposed to drilling are so caught up in opposing new energy alternatives, they lose sight of the ultimate goal — domestic production of a clean, abundant fuel source. This country was built on a commitment to innovation. We must not allow fear of the unknown to stand in the way of a prosperous future. It was exactly this determination that allowed us to put a man on the moon.

At the end of the day, New York will have strictest natural gas-drilling permit requirements and regulations in the country. With these protections in place, natural gas drilling should go forward to lead the state into a much-needed economic revitalization.

Norton is president of the New York Farm Bureau.

Fracking foes rally before NYC hearing

11:29 AM, Nov. 30, 2011

The Associated Press

NEW YORK — Gas-drilling opponents are lined up to tell state regulators what they think of proposed rules for natural gas development using hydraulic fracturing.

They were rallying Wednesday in Manhattan, where the last of four public hearings on proposed regulations was being held. It's a hot issue in New York City, which gets its drinking water from upstate reservoirs.

Fears of contamination of the city's watershed prompted a moratorium on drilling permits in 2008. The state Department of Environmental Conservation began a review of regulations.

Hydraulic fracturing, or fracking, injects millions of gallons of chemical-laced water into a well to release gas. Opponents fear accidents and contamination. The industry touts its safety record.

If the regulations are enacted, drilling in the Marcellus Shale in upstate New York could begin next year.

Fracking opponents dominate the DEC public hearing in NYC

6:25 PM, Nov. 30, 2011

Jessica Roff, an environmental activist from Brooklyn, N.Y., speaks during hearing natural gas development using hydraulic fracturing, Nov. 30, 2011, in Manhattan. / The Associated Press

Written by

Mary Esch

The Associated Press

NEW YORK -- Gas-drilling opponents including actor Mark Ruffalo and "Gasland" documentary producer Josh Fox called for a ban on gas development using [hydraulic fracturing](#) at a state hearing on drilling regulations Wednesday.

As the hearing began, the New York state Department of Environmental Conservation announced that the 90-day comment period on its [1,537-page review of the environmental impacts of shale gas drilling and proposed regulations](#) has been extended to 120 days, ending Jan. 11. Environmental

groups have criticized the agency for developing regulations too quickly with too little time for public comment, while industry proponents say 3 1/2 years of study is more than enough.

Fears of contamination of New York City's watershed prompted a moratorium on drilling permits in 2008, when the state began a review of regulations.

Hydraulic fracturing, or fracking, injects millions of gallons of chemical-laced water into a well to release gas. Opponents fear accidents and contamination, while the industry touts its safety record.

Some speakers at the hearing criticized specific parts of the state's environmental study, saying it failed to tally health impacts of large-scale gas development or assess potential adverse economic impacts. Others used their three-minute time limit to scold regulators for even considering allowing fracking to go forward.

"Why are we wasting so much state money, time and energy wallowing around in the radioactive muck pit of gas drilling when what this state needs and wants is renewable energy?" said Ruffalo, an environmental activist. "We need leaders with imagination and courage that are going to face our energy problems with some bold and progressive ideas, not lickspittles to the energy industry's lobbyists."

State Sen. Tony Avella, author of a bill that would prohibit fracking in New York state, said the costs of properly regulating the industry outweigh the potential economic benefits.

"The risk of catastrophic danger to the environment, the health of new York state residents and adverse economic impacts as a result of hydraulic fracturing far outweigh the potential for job creation and promotion of a natural gas alternative to oil," Avella said.

Numerous speakers denounced Gov. Andrew Cuomo for allowing fracking. Outside the hearing, protesters carried signs saying "Governor Cuomo: in 2014 we'll remember. No fracking!"

Calls for a ban on fracking or even criminalization of the technology were greeted at the hearing with applause and the finger-wiggling popularized by the Occupy Wall Street movement.

The few speakers in favor of gas development were interrupted repeatedly with boos, catcalls and loud coughing despite stern warnings against such behavior by the judge overseeing the session.

One of those shouted down was Arthur Kremer, chairman of New York Affordable Reliable Electricity Alliance and a former Long Island assemblyman.

"At this moment, the state of Pennsylvania is eating our lunch," Kremer said outside the hearing. "They're raising millions of dollars in local communities from hydrofracking. It's not an industrial wasteland. They are having a great time at the expense of New York state."

"It's not fair for downstate people to impose their will on the people of upstate New York who want it and need it," Kremer said.

George Lee, a Cortland County Christmas tree farmer, was drowned out by booing, laughter, and shouts of "science!" and "solar!" as he spoke in favor of gas development. Later, outside the hearing, he said he didn't have gas leases on his land and didn't represent the industry. "I just believe the resource should be developed," he said.

Opposition was balanced more equally with support for gas drilling at the three previous DEC hearings, held in upstate communities where some landowners hope to cash in on an anticipated gas boom similar to that going on in other Marcellus Shale states, including Pennsylvania, West Virginia and Ohio. Proponents cite the dire need for jobs and economic development in depressed regions of the state.

In Binghamton, the expected epicenter of drilling if it's allowed to go forward, advocates yelled "Drill baby drill" as opponents chanted "No fracking way" outside a theater where more than 1,000 people packed the DEC hearing.

If the regulations are enacted, drilling in the Marcellus Shale in upstate New York could begin next year.

Driller to stop water to families in Dimock, Pa.

12:27 PM, Nov. 30, 2011

Written by

Michael Rubinkam

The Associated Press

ALLENTOWN, Pa. -- Families in a northeastern Pennsylvania village with tainted water wells will have to procure their own water for the first time in nearly three years as a [natural-gas](#) driller blamed for polluting the aquifer moves ahead with its plan to stop paying for daily deliveries.

Houston-based [Cabot Oil & Gas Corp.](#) plans to end delivery of bulk and bottled water to 11 families in [Dimock](#) on Wednesday. Cabot asserts Dimock's water is safe to drink and won permission from state environmental regulators last month to stop paying for water for the residents. A judge on Wednesday declined to issue an emergency order compelling Cabot to continue the deliveries.

Several environmental groups urged the state [Department of Environmental Protection](#) to reverse course, saying Cabot has not met its legal obligation to restore the water supply.

"The department's decision is irresponsible given that Dimock residents have relied on the trucking of temporary fresh water for drinking, bathing and other household uses," Jeff Schmidt, director of the Sierra Club's Pennsylvania chapter, wrote to Pennsylvania Environmental Secretary Michael Krancer this week. "The residents' water supplies have not been restored, either in quantity or quality."

A December 2010 agreement between DEP and Cabot required the company to offer residential treatment systems that remove methane from the residents' water, and to pay them twice the assessed tax value of their homes. The agreement does not make the company liable for any chemicals or metals that have turned up in the residents' water, nor does it require the company to treat the water for anything other than methane.

Residents who are suing Cabot have appealed the settlement. They favor an earlier, scuttled DEP plan that would have forced the company to pay nearly \$12 million to connect their homes to a municipal water line.

State regulators had previously found that Cabot drilled faulty gas wells that allowed methane to escape into Dimock's aquifer. The company denied responsibility, but it has been banned from drilling in a 9-square-mile area of Dimock since April 2010.

Dimock, a rural community about 20 miles south of the New York state line, has seen 18 residential water wells polluted with methane. It has since become a flash point in the national debate over unconventional gas drilling in deep shale deposits like the Marcellus Shale, a vast rock formation in Pennsylvania and surrounding states that's believed to hold the nation's largest supply of natural gas.

As Pa. families seek water, Ryan considers aid

No formal agreement made with Dimock Township residents

8:50 PM, Nov. 30, 2011

Craig Sautner, a resident of Dimock, Pa., holds a jug of his well water outside of The Forum in Binghamton on Monday, September 13, 2010 during the final public meeting on the U.S. Environmental Protection Agency's hydraulic fracturing study. Sautner lives 976-feet from a Cabot Oil natural gas drill. He was not allowed to take the receptacle into the meeting. / REBECCA CATLETT/ Staff Photo

Written by
Steve Reilly

BINGHAMTON -- Mayor Matthew T. Ryan said he's looking into ways the city can aid a group of Pennsylvania landowners beset by natural gas drilling-related water woes.

On Wednesday, a Pennsylvania environmental hearing board judge struck down an eleventh-hour effort to force Cabot Oil & Gas to continue supplying water to a group of landowners in Dimock Township, Susquehanna County.

Those landowners say their wells became contaminated as a result of Cabot's drilling and hydraulic fracturing operations near their properties.

Immediately after the ruling was handed down Wednesday, Susquehanna County resident Craig Stevens -- who does not live in Dimock -- said he began making calls to arrange shipments of water from other sources for his neighbors.

Ryan was among the few who expressed interest, he said.

"He's not asking for any money. This guy is awesome," Stevens said.

He noted arrangements to have Binghamton trucks pick up water in Montrose and transport it to Dimock weren't finalized, but he had the impression they would be.

"I can call my friends in Dimock and say 'get ready, because the City of Binghamton is going to come in, and they're going to get you all topped off,'" Stevens added.

Dimock Township, located about 30 miles from Binghamton's city limits, has been a battleground in the nationwide debate over whether horizontal hydrofracking -- used to extract natural gas from tight rock formations like the Marcellus Shale -- presents a serious threat to water supplies and the environment.

Cabot was ordered to install residential water-treatment systems and provide shipments of water for 11 Dimock families under the terms of a December 2010 settlement with the Pennsylvania Department of Environmental Protection.

But in October, DEP agreed to let Cabot stop shipping water to the families, saying it had satisfied the requirements of the 2010 settlement.

Wednesday's decision was in response to a legal appeal of that order allowing Cabot to stop shipments.

Although there is an opportunity to make a second appeal by Dec. 7, Dimock landowner Craig Sautner said the decision Wednesday leaves him and his neighbors in the lurch.

"We're not too happy," he said. "I was hoping that the environmental hearing board would do the right thing and overturn the DEP's decision to shut the water off. But that's not the way they looked at it."

Ryan -- a vocal opponent of the rush to drill for natural gas in New York -- remained vague in a statement on potential aid from the city to Dimock landowners.

"Our neighbors to the south have contacted us about their very distressing situation," Ryan said, "and we're looking into ways we can provide mutual aid."

In response to the Press & Sun-Bulletin's request for clarification, city spokesman Andrew Block said Ryan indicated in conversations with Pennsylvania landowners that "he would look into whatever sort of mutual aid the city could provide."

"He could not offer a particular resource or set of resources because the city has yet to receive an aid request from the Dimock Township," Block said. "We anticipate that mutual aid would entail water for the families that the shut-off is affecting. That nature of a mutual-aid agreement, however, depends on what the township requests."

Sautner, the Dimock landowner, said he spoke with Ryan at a hearing on hydrofracking in Binghamton in November and he would be glad for Ryan's and Stevens' help.

He and his wife have enough water in their 550-gallon tank to last until Friday. After that, they'll probably need outside help to keep water shipments coming.

"We'll see what happens with all this," Saunter said. "We're in a crazy situation right now."

Franklin fielding more RV requests

12/1/2011 3:33 AM

Observer-Reporter

Franklin Township Zoning Hearing Board has acted on plans for several recreational vehicle parks as local property owners attempt to cash in on the need for temporary housing for gas and pipeline workers.

The board in the last two months has held hearings on seven proposed projects and approved four of them.

Since the board's last meeting in November, applications have been filed for four additional recreational vehicle parks or, as they are referred to in the zoning ordinance, "camping grounds."

The zoning hearing board will consider the applications at its meeting at 5 p.m. Dec. 13.

The applicants and locations of the proposed camping grounds for developers seeking special exceptions are David T. and Nancy Moore, property on Toll Gate Run Road; Carolyn Sue Cowell, property on Mt. Morris Road; and Samuel S. Steinmiller, property on Mt. Morris Road.

The fourth applicant, seeking a use variance, is Gerald and Loletta Scogin, property on Victoria Drive.

The township zoning ordinance does not specify any zones in which a camping ground is a permitted use. The applicant must receive either a variance or special exception depending on the property's zoning designation.

All camping grounds as a result must be approved by the zoning board.

Township ordinances do include regulations that apply to camping grounds, such as the need for sewage and water and an approved highway entrance.

The two applications that were denied last month had proposed developing parks in areas zoned residential. Both drew opposition from nearby property owners and were denied based on their potential to alter the essential nature of the neighborhood.

The county has been working to develop a plan to address the need for housing for workers coming into the county for extractive industries such as oil and gas.

A housing study recently completed for the county indicated 76 percent of the jobs created by the oil and natural gas industry in the next few years will be long term requiring permanent housing while 24 percent will be temporary requiring only temporary housing.

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----- Original Message -----

From: DSGJr@aol.com

To: dcsoinks@comcast.net

Sent: Wednesday, November 30, 2011 10:14 PM

Subject: Check out Group: Gas drilling polluting Chesapeake Bay area - News - Charles

[Click here: Group: Gas drilling polluting Chesapeake Bay area - News - Charleston Daily Mail - West Virginia News and Sports](#)

Wednesday November 30, 2011

Group: Gas drilling polluting Chesapeake Bay area

by The Associated Press

The Associated Press

The Associated Press

BALTIMORE -- An environmental group said Wednesday that infrared video shows air pollution streaming from natural gas sites that have been sprouting up across the Chesapeake Bay watershed.

The Chesapeake Bay Foundation said it sent the videos to the federal Environmental Protection Agency along with a letter saying they show emissions are not being adequately controlled. The video "establishes that the industry is not sufficiently limiting the amount of leaks from drilling and processing operations and the full extent of those leaks" has not been adequately considered in the EPA's proposed regulations, the letter said.

A boom in drilling using a technique known as hydraulic fracturing prompted environmentalists to sue the EPA last year over regulation. The agency proposed new rules in July to control air pollution at oil and gas wells for the first time. The video and letter were filed on the last day of the public comment period for the proposed regulations, said Harry Campbell, a senior scientist at the foundation's Pennsylvania office.

The Chesapeake Bay Foundation said it hired a videographer to record video at 15 sites in Pennsylvania, Maryland and West Virginia and found otherwise invisible emissions at 11.

Campbell said the video "adds another line of evidence that there are issues that need to be addressed."

The foundation said in its letter that increased shale gas production may prove beneficial because natural gas is cleaner than oil and coal, but "the alarming rate at which extraction activities have increased in the bay watershed gives us great pause as we attempt to understand the full implications."

The EPA did not immediately respond to requests for comment Wednesday by The Associated Press.

Hydraulic fracturing is a horizontal drilling technique in which water, sand and chemicals are pumped into the mile-deep shale to crack the rock and free the gas. Critics have expressed concerns about the effect of the chemicals on groundwater, and the EPA is studying the issue. Maryland has imposed a moratorium on so-called "fracking" while environmental implications are studied, but drilling is being conducted in West Virginia and Pennsylvania.

Corky DeMarco, executive director of the West Virginia Oil and Natural Gas Association, said there are necessarily some emissions from diesel engines that run drilling rigs and pumping trucks. But DeMarco said past studies done in Texas and Pennsylvania determined "these are mobile sources, they're temporary sources, and they are not causing accumulated effects."

Bob Howarth, a Cornell University professor who analyzed the video for the Chesapeake Bay Foundation, said the camera is tuned to detect emissions of methane, the main component of natural gas and a key greenhouse gas.

Howarth said the images provide more evidence that the EPA should conduct a more comprehensive study of the impact of hydraulic fracturing on human health and the environment.

Reid Porter, a spokesman for The American Petroleum Institute, the main lobbying arm of the industry, said Howarth's findings have been questioned in the past by other researchers. Porter said the institute is on the record as saying "any conclusions that start with Howarth's preconceived premise are questionable at best."

Methane is 20 times more effective at trapping heat in the atmosphere than carbon dioxide over a 100-year span, according to the EPA, which says natural gas systems are the largest sources of methane emissions in the United States.

Natural gas drilling, meanwhile, has already been blamed for affecting air quality. Drilling in the Upper Green River Basin in western Wyoming, for example, triggered levels of surface ozone worse than in Los Angeles, one of the nation's smoggiest cities.

From: [Betty Wiley](#)

To: Sent: Wednesday, November 30, 2011 7:48 PM

Subject: Must read: definitive Dunkard Creek article

----- Forwarded message -----

From: **Ann Payne** <paynestake@frontier.com>

Date: Wed, Nov 30, 2011 at 3:46 PM

Subject: Did you see this yet?

To: Betty Wiley <betty.w304@gmail.com>

http://www.earthisland.org/journal/index.php/eij/article/what_killed_dunkard_creek/

Ann

What Killed Dunkard Creek?

Residents in Pennsylvania and West Virginia say fracking is to blame.

BY ADAM FEDERMAN

"Bluegill" by Nan Buery

On August 27, 2009, Dan Cincotta, a fisheries biologist with West Virginia's Department of Natural Resources, was conducting a routine inventory of Dunkard Creek, a small river that runs through West Virginia and southwestern Pennsylvania. He was accompanied by a consultant and an environmental engineer from the state's largest coal and gas company, Consol Energy, which operates a coalmine, Blacksville #2, just outside of Wana, West Virginia. Cincotta was supposed to do electro-fish surveys, whereby the fish are temporarily stunned in order to assess populations, and to take a series of conductivity readings – a basic measure of how much salt is dissolved in water.

When his first reading measured 20,000 micro siemens per centimeter squared ($\mu\text{S}/\text{cm}$), Cincotta thought his equipment was broken; he had never seen readings above 5,000. The Consol consultant took her own reading in the same location but farther from the riverbank. It registered 40,000 $\mu\text{S}/\text{cm}$. Still in disbelief, Cincotta says, "we wandered upstream and found [Consol's mining] discharge. And in the discharge alone, straight out of the pipe our equipment registered over 50,000 $\mu\text{S}/\text{cm}$," roughly the equivalent of seawater. Untreated acid mine discharges typically have conductance values of between 1,000 and 1,500 $\mu\text{S}/\text{cm}$.

The following day, a Friday, Cincotta sent an email to the US Environmental Protection Agency (EPA) field office in West Virginia alerting them to the extraordinarily high conductivity levels. Then, over the weekend, the reports of dead fish began. During the next month about 22,000 fish washed ashore (some estimates say as many as 65,000 died). At least 14 species of freshwater mussels – the river's entire population – were destroyed, wiping out nearly every aquatic species along a 35-mile stretch of Dunkard Creek. "That's the ultimate tragedy," says Frank Jernejcic, a fisheries biologist with the West Virginia Department of Natural Resources. "Fish will come back, we can get the fish back. The mussels are a generational thing."

The scene was horrific: Many of the fish were bleeding from the gills and covered in mucous; mud puppies, a kind of gilled salamander that lives underwater, had tried to

escape by crawling onto nearby rocks; three-foot long muskies washed up along the riverbanks. The die-off marked one of the worst ecological disasters in the region's history.

Some people blame Pennsylvania's growing natural gas industry. Others say it was acid mine drainage. Either way, industrial pollution is pushing the state's waters to the breaking point.

"Unless you have actually seen a fish kill, it's one of the most devastating things that you can imagine," says Verna Presley, a retired teacher who lives on the creek. "Because you don't think of the sound of a stream until it's dead and it's just the eeriest silence that you can imagine. Everything right down to the insects was killed."

A nearly three-month-long investigation by state and federal regulators eventually tied the kill to an invasive algae species known as golden algae (*Prymnesium parvum*). Yet golden algae offered only a partial explanation for the disaster. It may have been the immediate reason for the kill, but it wasn't the underlying cause. The algae itself cannot survive in freshwater; it thrives only in marine-like environments. Somehow, a freshwater, inland ecosystem had become saline enough for the algae to grow and multiply.

How did this Appalachian stream become so salty? There is no single answer, no smoking gun. The contaminated water might have come from acid mine drainage discharges – outflow of wastewater from nearby coalmines, which has been occurring for decades. It might also be tied to [natural gas drilling in the Marcellus Shale](#), a relatively new industry in the region. Or perhaps it was a toxic cocktail of both.

The complexity of the disaster has allowed the company most likely responsible for destroying the stream, Consol Energy, to deny wrongdoing. "Working with renowned biologists, Consol Energy determined its operations were not the cause" of the fish kill, the company said in a 2010 press release. Still, Consol recently reached an agreement with the EPA to pay \$5.5 million in civil penalties and construct a brine water treatment plant by 2013.

The EPA and state regulatory agencies have concluded that acid mine drainage from Consol's coalmine led to the algae bloom. But many area residents, some local conservation officers, and the lead EPA investigator on the case have cast doubt on that assumption. They believe the stresses of coal bed methane extraction and hydraulic fracturing, or fracking, in the Marcellus Shale also contributed to the stream's worsening condition. They argue that acid mine drainage alone doesn't explain the changes that occurred in the stream's composition and that illegal dumping of wastewater and water withdrawals from Dunkard Creek must have played some part in the algae bloom.

The fish kill at Dunkard Creek points to a systemic threat that could jeopardize the watersheds of an entire region. As unconventional shale gas production expands throughout the Northeast (conservative estimates are that 60,000 wells will be drilled in Pennsylvania alone over the next two decades) its rivers and streams may be forced to absorb increasingly large volumes of exceptionally salty water – water ten to twenty times more saline than seawater. "Produced water," as it is referred to by the industry, is a mix of fracking chemicals, water, and dissolved shale formation solids; it represents the largest volume byproduct of oil and gas exploration and production in the United States.

Pennsylvania officials, at least, seem to recognize that improper disposal of produced water would lead to an environmental and public health fiasco. State regulators recently said that municipal treatment plants would no longer be permitted to accept Marcellus Shale wastewater, a major policy reversal. What the state plans to do with the billions of gallons of wastewater created during the drilling process remains unclear.

Dunkard Creek snakes along the Pennsylvania-West Virginia border and eventually empties into the Monongahela River, which flows north to Pittsburgh. The creek was long considered one of the most diverse streams in the Monongahela watershed. Known for its muskellunge fishing, it also supported an unusually rich population of freshwater mussels. The area is also dotted with coalmines, many of which discharge acid drainage directly into the creek and its tributaries. Massive underground mine pools must be continuously pumped either by the companies that own them or, if they've been abandoned, by the state. Billions of gallons of treated wastewater are discharged into the Monongahela River basin annually.

In recent years, coal bed methane extraction – the absorption of natural gas from coal seams – along with natural gas hydraulic fracturing in the Marcellus Shale have placed further stresses on the river in the form of water withdrawals and wastewater disposal. In Greene County, through which Dunkard Creek runs, more than 250 natural gas wells have been drilled in just a few years. Consol, the largest producer of coal from underground mines in the United States, has described the fossil fuel-rich area as “the continental US equivalent of Prudhoe Bay.” Like Alaska’s Prudhoe Bay, the region has begun to experience the impacts of large-scale industrial development and resource extraction.

“I fished that stream for years. Then when the Marcellus comes in this happens. Why?”

A month after the fish kill, state and federal officials pointed to acid mine drainage – Consol had been discharging the waste directly into Dunkard Creek for decades – as the cause of the algae bloom and fish kill. Found worldwide in estuarine waters, golden algae was first reported in the United States, in Texas, in 1985. Since then it has killed more than 12 million fish in Texas and has slowly spread to several other river basins. The algae responds to certain stressed environments by releasing a toxin that ruptures the tissue cells in the mouths and gills of fish, depriving them of oxygen and causing them to suffocate – hence the desperate attempts of the fish and mudpuppies to escape the river. Until the Dunkard Creek fish kill, however, the algae had never been detected north of the Mason-Dixon Line.

“When the fish kill first happened, we in the research community got a lot of calls,” says Jeanne VanBriesen, director of the Center for Water Quality at Carnegie Mellon University. “Who do you know who knows anything about golden algae? And we all said the same thing: ‘In Pennsylvania why would anyone know anything about golden algae? You have to go to Texas or Florida because it hadn’t been seen here.’” Golden algae has now been found in several waterways in Pennsylvania and West Virginia.

How the algae ended up in Dunkard Creek may never be known. Dr. David Hambricht, a professor of zoology at the University of Oklahoma, has analyzed samples of golden algae from Dunkard Creek and is investigating the phylogenetic relationships between different strains. “It’s never going to be possible to say, okay, it was a bucket of water on the back of a drilling truck from South Texas,” he told me. “It was very likely wind borne.” Hambricht isn’t surprised that the algae has been found in Dunkard Creek. “What’s surprising,” he says, “is that they would find the habitat in which they could live.” But they did. In the case of Dunkard Creek, unusually high levels of dissolved solids, nutrient-rich water, and low flows created a kind of perfect storm for the algae’s growth.

Early assessments of the kill pointed to fracking wastewater as the source of the river’s high levels of Total Dissolved Solids (TDS) – a rough measure of salts and minerals dissolved in water. “The elevated levels of TDS and chlorides in the creek indicates oil- and gas-drilling wastewater,” West Virginia Department of Environmental Protection (DEP) spokeswoman Kathy Cosco said at the time. However, water samples taken later showed that the dominant ion in Dunkard Creek around the time of the kill was sulfate, which is typical of acid mine drainage, and not chloride (although chloride levels were also abnormally high) commonly found in fracking wastewater.

This led the Pennsylvania and West Virginia environmental agencies to conclude that the high conductivity levels that caused the algal bloom were largely the result of acid mine drainage. "There's no evidence at this point – nor do I think there will be – that any of the problems in Dunkard Creek were related to the oil and gas industry," says Pennsylvania DEP Southwest Regional Director Ron Schwartz. "There were a lot of different causes for it, but that wasn't one of them," he says. Scott Mandirola, director of West Virginia DEP's Division of Water and Waste Management, agrees. "The Dunkard issue is mine water," he says. "We investigated this thing from top to bottom and everything we've got points to the mining discharges."

But Consol denies that it is at fault and, as part of its agreement with the EPA, has not admitted liability for the kill. "We do not believe the discharge from our mining operations caused the fish kill," says Joe Cerenzia, PR director for the company. He points out that Consol has operated the mine for 30 years without incident. "It was the algae that did [it]." The company's rationale – that it had discharged acid mine drainage into Dunkard Creek for 30 years without any problems – raises more questions than it answers. What, then, changed the river's composition?

In emails obtained by *The New York Times* under a Freedom of Information Act request, Lou Reynolds, the lead EPA biologist on the case, wrote: "Mine discharges from those deep mines shouldn't differ a lot from the normal mining constituents. Something has changed in the mine pools."

The difference, many local residents speculate, was wastewater from natural gas and coal bed methane extraction. The Marcellus Shale is a sedimentary rock formation that was deposited more than 350 million years ago in a shallow inland sea. These ancient rocks contain chlorides that dissolve during the process of hydraulic fracturing. Abnormally high chloride readings in Dunkard Creek could have come from improper disposal of produced water, residents say.

In 2005 Consol Energy formed a subsidiary, CNX Gas, which specializes in coal bed methane extraction and natural gas drilling. That same year it applied for a permit to operate the Morris Run injection well – part of the abandoned Blacksville #1 coalmine – to dispose of wastewater from coal bed methane extraction. The Morris Run borehole is on the Pennsylvania side of the river, just upstream from the Blacksville #2 mine in West Virginia. CNX's permit required the company to secure the area with a fence and monitor the cumulative volume of water injected into the well.

"Frog" by Steve Lawson These paintings are part of an exhibition called "Reflections: Homage to Dunkard Creek" that commemorates the dozens of species that died in the river kill. The project was sponsored by The Mountain Institute.

An EPA inspection in August 2008 found that the company was violating several provisions of the permit application. Then, in the spring of 2010, one of Consol's primary contractors, Allan's Waste Water Service, a wastewater hauling company, was charged with multiple counts of illegally dumping toxic waste, including Marcellus Shale-produced wastewater. According to a grand jury presentment, drivers for the company testified that they dumped drilling wastewater into the Morris Run borehole and into several tributaries of Dunkard Creek. "Drivers testified that Allan's Waste Water was responsible for receiving, transporting, and disposing of production water from gas wells owned and operated by CNX," the Pennsylvania Attorney General's office noted. "According to the drivers, during the summer of 2007, CNX's gas wells began to generate more production water than Allan's Waste Water was capable of handling. As a result, [company owner] Shipman showed the drivers how to leave open the gas well valves and ordered them to discharge production water into the ground and/or into the nearby waterways," including Dunkard Creek.

Before the fish kill there was a steady stream of traffic on the narrow dirt road that leads up to the borehole, local residents say. "It was 24/7 trucks going up the road to the borehole," says Verna Presley, who lives nearby. "They even constructed areas off of the road so that one truck could pull over and another one could get past."

Martin Niverth, who was Greene County Conservation Commissioner at the time, says that he received numerous phone calls from people living in the area complaining about the traffic on the road to the underground injection well. "There's trucks coming and going. Well, that kind of volume, you know, what does that tell you? I know what it tells me. You know that you have Marcellus dumping going on down there." Even Mandirola of the West Virginia DEP concurs: "A lot of Marcellus wastewater went down in that hole," he says. "There is a separation between those two mines," says Mandirola. "But there is seepage through the wall. I don't think anybody really knows how much seepage is occurring, but the Morris Run borehole is right at the edge of that division."

Presley also says that the haulers were withdrawing water from the river, presumably for use in fracking operations, which require millions of gallons of freshwater per well. "They were pumping so much out of Dunkard Creek that they just put their hoses into the water and left them there for the next truck to come and hook up and pull it out," she says. "We literally watched the stream go down about 12 inches prior to the fish kill."

USGS data from further downstream shows a steep decline in river flows during that period. "The decrease in flows at the end of August does look suspect," Clinton Hittle, a hydrologist with the USGS, wrote in an email.

Niverth, whose first job was at the Blacksville #2 mine loading coal, believes that the unregulated injection of Marcellus wastewater into the Morris Run borehole, illegal dumping, and water withdrawals all contributed to the fish kill. "I fished that stream for years and years," Niverth says, "and that's why some of us are still very skeptical, because those mines operated for years. ... Then right when the Marcellus comes in this happens. Why?"

Several months before the fish kill, the EPA was in the process of drafting a consent order to address Consol's security violations at the injection well. But after the fish die-off the company decided to plug and abandon the well. It was still fined the maximum penalty of \$157,000 for failing to secure the site, but the underground injection well was never officially linked to the kill.

Dan Cincotta, the biologist who first recorded unusually high conductivity readings on Dunkard Creek, says that salinity levels in rivers and streams in Pennsylvania and West Virginia are a growing concern. Over the last 30 years he's sampled thousands of streams and conducted several statewide surveys. "All the streams around are much higher in conductivity than they used to be," he says. Shale gas extraction will likely just add to the problem. Last year the Academy of Natural Sciences in Philadelphia released preliminary data from one of the few studies to look at the impact of shale gas drilling on rivers and streams. They found that TDS levels were significantly higher and biodiversity indicators reduced in streams exposed to high-density gas drilling. At the same time, billions of gallons of acid mine drainage must be disposed of annually.

"We're at the assimilative capacity of the river," says David Argent, a fisheries biologist at the [California University of Pennsylvania](#) who has conducted surveys on the Monongahela. "In other words, you can't dilute any more in the Monongahela. It doesn't matter what it is – if it's Marcellus, if it's mining, if it's sewage, if it's treated sewage, if it's untreated sewage, we're there. And I think it's just a matter of what is it that's going to tip the scale now and push us over the edge."

In 2008, TDS levels on the Monongahela were twice as high as the historical maximum since record keeping began in the 1960s, including a period during which the river supported little or no aquatic life. That summer, during a period of low flows, there were reports of foul smelling drinking water and malfunctioning dishwashers in a residential neighborhood outside of Pittsburgh. The DEP issued an advisory warning suggesting that residents drink bottled water (the Monongahela is a source of drinking water for about one million people) and later determined that nine sewage treatment plants were discharging large volumes of Marcellus Shale-produced water into the river. An internal EPA memo obtained by *The New York Times* described the

incident as “one of the largest failures in US history to supply clean drinking water to the public.”

One year later, the high TDS and chloride levels that led to the Dunkard Creek fish kill were detected on the Monongahela, more than 40 miles downstream, in Elizabeth, PA. “I think that was kind of the alarm cry that we needed,” Argent says. “Because I think at that point people really started to question, you know, what’s going on with the water.”

Adam Federman, a Middlebury Fellow in Environmental Journalism, has written for The Nation, Columbia Journalism Review, Gastronomica, Adirondack Life, and other publications

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